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 NEWS  1           Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2           "Ask CAS" for self-help around the clock
 NEWS  3  AUG 09   INSPEC enhanced with 1898-1968 archive
 NEWS  4  AUG 28   ADISCTI Reloaded and Enhanced
 NEWS  5  AUG 30   CA(SM)/CAplus(SM) Austrian patent law changes
 NEWS  6  SEP 11   CA/CAplus enhanced with more pre-1907 records
 NEWS  7  SEP 21   CA/CAplus fields enhanced with simultaneous left and right
                   truncation
 NEWS  8  SEP 25   CA(SM)/CAplus(SM) display of CA Lexicon enhanced
 NEWS  9  SEP 25   CAS REGISTRY(SM) no longer includes Concord 3D coordinates
 NEWS 10  SEP 25   CAS REGISTRY(SM) updated with amino acid codes for pyrrolysine
 NEWS 11  SEP 28   CEABA-VTB classification code fields reloaded with new
                   classification scheme
 NEWS 12  OCT 19   LOGOFF HOLD duration extended to 120 minutes
 NEWS 13  OCT 19   E-mail format enhanced
 NEWS 14  OCT 23   Option to turn off MARPAT highlighting enhancements available
 NEWS 15  OCT 23   CAS Registry Number crossover limit increased to 300,000 in
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 NEWS 16  OCT 23   The Derwent World Patents Index suite of databases on STN
                   has been enhanced and reloaded
 NEWS 17  OCT 30   CHEMLIST enhanced with new search and display field
 NEWS 18  NOV 03   JAPIO enhanced with IPC 8 features and functionality
 NEWS 19  NOV 10   CA/CAplus F-Term thesaurus enhanced
 NEWS 20  NOV 10   STN Express with Discover! free maintenance release Version
                   8.01c now available
 NEWS 21  NOV 13   CA/CAplus pre-1967 chemical substance index entries enhanced
                   with preparation role
 NEWS 22  NOV 20   CAS Registry Number crossover limit increased to 300,000 in
                   additional databases
 NEWS 23  NOV 20   CA/CAplus to MARPAT accession number crossover limit increased
                   to 50,000
 NEWS 24  NOV 20   CA/CAplus patent kind codes will be updated
 NEWS 25  DEC 01   CAS REGISTRY updated with new ambiguity codes

 NEWS EXPRESS  NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

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=> s (hologram or holographic)
L1        77255 (HOLOGRAM OR HOLOGRAPHIC)

=> s l1 and hydroxyethyl (8w) methacrylate
L2           80 L1 AND HYDROXYETHYL (8W) METHACRYLATE

=> s (hologram or holographic) (s) (sens? or detect? or monitor?)
L3        11086 (HOLOGRAM OR HOLOGRAPHIC) (S) (SENS? OR DETECT? OR MONITOR?)

=> s l3 and hydroxyethyl (8w) methacrylate
L4           21 L3 AND HYDROXYETHYL (8W) METHACRYLATE

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L4   ANSWER 1 OF 21  CAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         2005:47821  CAPLUS
DOCUMENT NUMBER:          142:312596
TITLE:                    Divalent metal ion-sensitive
                          holographic sensors
AUTHOR(S):                Madrigal Gonzalez, Blanca; Christie, Graham; Davidson,
                          Colin A. B.; Blyth, Jeff; Lowe, Christopher R.
```

CORPORATE SOURCE: Institute of Biotechnology, University of Cambridge, Cambridge, CB2 1QT, UK
SOURCE: Analytica Chimica Acta (2005), 528(2), 219-228
CODEN: ACACAM; ISSN: 0003-2670
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:312596

AB A holog. sensor for real-time detection of divalent metal ions (Ca2+, Mg2+, Ni2+, Co2+ and Zn2+) has been fabricated by incorporating a chelating monomer into a hydrogel matrix. A methacrylated analog of iminodiacetic acid (IDA) was prepared and co-polymerized with hydroxyethyl methacrylate (HEMA) and ethylene glycol dimethacrylate (EDMA) as a cross-linker to form polymer films. A silver-based reflection hologram was incorporated into the hydrogel by diffusion followed by holog. recording using a frequency-doubled Nd/YAG laser. Changes in the replay wavelength of the hologram were used to characterize the swelling behavior of the matrix as a function of its chemical composition and concentration of analyte in the media. The effects of active monomer, cross-linker, pH and ionic strength on the swelling of the matrix and on metal detection sensitivity have been studied. Polymers containing >10 mol% of chelating monomer and 6 mol% of cross-linker showed significant responses (46.3 nm) within 30 s at an ion concentration of 0-40 nm. The selectivity of the holograms towards the different ions tested was Ni2+>Zn2+>Co2+>Ca2+>Mg2+. The sensor showed fully reversible responses, permitting real-time monitoring of calcium ion efflux during the germination of Bacillus megaterium spores.

REFERENCE COUNT: 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:780912 CAPLUS
DOCUMENT NUMBER: 141:251245
TITLE: Holographic sensors and their production
INVENTOR(S): Lowe, Christopher Robin; Davidson, Colin Alexander Bennett; Blyth, Jeffrey; Marshall, Alexander James; James, Anthony Peter
PATENT ASSIGNEE(S): Smart Holograms Limited, UK
SOURCE: PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004081546	A1	20040923	WO 2004-GB979	20040311
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004219875	A1	20040923	AU 2004-219875	20040311
CA 2516169	AA	20040923	CA 2004-2516169	20040311

EP 1601953 A1 20051207 EP 2004-719506 20040311
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK
PRIORITY APPLN. INFO.: GB 2003-5591 A 20030311
WO 2004-GB979 A 20040311

AB An array of discrete sensors disposed on a substrate, each sensor comprising a holog. support medium and a hologram disposed throughout the volume of the medium, whereby interaction with an analyte results in a variation of a property of the medium.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:41665 CAPLUS
DOCUMENT NUMBER: 140:90268
TITLE: Detection of microorganisms with holographic sensor
INVENTOR(S): Lowe, Christopher Robin; Davidson, Colin Alexander Bennett
PATENT ASSIGNEE(S): Smart Holograms Limited, UK
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004005537	A1	20040115	WO 2003-GB2958	20030709
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2491889	AA	20040115	CA 2003-2491889	20030709
AU 2003260676	A1	20040123	AU 2003-260676	20030709
EP 1520033	A1	20050406	EP 2003-762814	20030709
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2005532059	T2	20051027	JP 2004-519006	20030709
US 2006057653	A1	20060316	US 2005-520221	20050727

PRIORITY APPLN. INFO.: GB 2002-15878 A 20020709
WO 2003-GB2958 W 20030709

AB A method for the detection of a cell comprises immobilizing the cell in a device also containing a sensor, and introducing a growth medium, wherein the sensor is sensitive to a product of the cell's growth; and detecting any change in an optical characteristic of the sensor. A device suitable for use in the invention comprises a chamber including a sensor, inlets for a sample and for a growth medium, and means for immobilizing an antibody in the chamber or elsewhere in the device that provides a fluidic link with the sensor.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:588706 CAPLUS
DOCUMENT NUMBER: 139:257646

TITLE: pH-sensitive holographic sensors
AUTHOR(S): Marshall, Alexander J.; Blyth, Jeff; Davidson, Colin A. B.; Lowe, Christopher R.
CORPORATE SOURCE: Institute of Biotechnology, University of Cambridge, Cambridge, CB2 1QT, UK
SOURCE: Analytical Chemistry (2003), 75(17), 4423-4431
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Holog. sensors for monitoring H+ (pH) have been fabricated from ionizable monomers incorporated into thin, polymeric, hydrogel films which were transformed into volume holograms using a diffusion method coupled with holog. recording, using a frequency doubled Nd:YAG laser (532 nm). Unlike other optical pH sensors, it is possible to tailor the operational replay wavelength of the holog. sensor by careful control of the exposure conditions. The holog. diffraction wavelength (color) of the holograms was used to characterize their shrinkage and swelling behavior as a function of pH in various media. The effects of hydrogel composition, ionic strength, temperature, and factors influencing reversibility and response time are evaluated. Optimized holog. pH sensors show milli-pH resolution The pH-sensing range of the holograms can be controlled through variation of the nature of the ionizable co-monomer used in polymer film construction; a series of holog. sensors displaying visually perceptible, fully reversible color changes over different pH ranges are demonstrated. A poly(hydroxyethyl methacrylate-co-methacrylic acid) holog. sensor was shown to be able to quantify the change in H+ concns. in real time in a sample of milk undergoing homolactic fermentation in the presence of Lactobacillus casei.

REFERENCE.COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:714288 CAPLUS
DOCUMENT NUMBER: 137:249230
TITLE: Hologram-type transfer sheets with relief patterns resistance to marring and scratch
INVENTOR(S): Hojo, Mikiko; Shiota, Satoshi
PATENT ASSIGNEE(S): Dai Nippon Printing Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002268523	A2	20020920	JP 2001-65720	20010308

PRIORITY APPLN. INFO.: JP 2001-65720 20010308

AB The transfer sheets comprise a substrate film and a transfer member comprising a hologram-forming layer and a heat-sensitive adhesive layer which is distant from the substrate where the hologram-forming layer is obtained from resins having the dynamic storage modulus (E') from a dynamic viscoelastic measurement over a temperature range of 120-180° of >5.0x107 Pa and maximum value for tanδ at a temperature of >100°. Thus, adding a mixture of hydroxyethyl methacrylate 24.6, Me methacrylate 73.7, dicyclopentenyloxyethyl methacrylate 24.6, PhMe 20 and MEK 20 to a reactor containing PhMe 40, MEK 40 parts and an azo initiator over 2 h while heating at 100-110° for 8 h, cooling the reaction mixture to room

temperature, adding 2-isocyanatoethyl methacrylate 27.8, PhMe 20 and MEK 20 g and Bu2Sn dilaurate and reacting gave a resin in solution with solids content 41.0%, E' 1.03x109 Pa for the min. value in a temperature range of 120-180° and maximum value for tanδ found at 124.3°. Mixing the resin 100 (as solids) with KF 7312 1, SR 399 (polyacrylate crosslinker) 70 and Irgacure 907 (photoinitiator) 5 parts, coating the resulting mixture to the release surface of a release-coated Lumirror T 60 (PET) film, and drying gave a copying film which was then press stamped with raised micro-patterns at 150° using a hologram master, irradiated with UV light, vapor deposited with an Al thin layer and coated (on the resulting relief patterns) with a HS 32 Mat (heat-sensitive adhesive) layer and heated to give a transfer readily for transfer onto a card surface.

L4 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:492938 CAPLUS
DOCUMENT NUMBER: 137:197658
TITLE: Metal ion-sensitive holographic sensors
AUTHOR(S): Mayes, Andrew G.; Blyth, Jeff; Millington, Roger B.; Lowe, Christopher R.
CORPORATE SOURCE: Institute of Biotechnology, University of Cambridge, Cambridge, CB2 1QT, UK
SOURCE: Analytical Chemistry (2002), 74(15), 3649-3657
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Holog. sensors for Na+ and K+ have been fabricated from crown ethers incorporated into polymeric hydrogels. The methacrylate esters of a homologous series of hydroxyether crown ethers were synthesized and copolymd. with hydroxyethyl methacrylate and the cross-linker ethylene dimethacrylate (3 mol %) to form stable hydrogel films (.apprx.10 μm thick) containing covalently bound (0-97 mol %) 12-crown-4, 15-crown-5, and 18-crown-6 pendant functionalities. The films were transformed into silver-based volume holograms using a diffusion method coupled with a holog. recording using a frequency-doubled Nd:YAG laser. The resulting holog. reflection spectrum was used to characterize the shrinkage and swelling behavior of the holograms as a function of polymer composition and the nature and concentration of alkali, alkaline earth, and NH4+ ions in the test media. Optimized film compns. containing 50 mol % crown ether showed substantial responses (≤200 nm) within 30 s at ion concns. of ≤30 mM, which could be rationalized on the basis of the known complexation behavior of the crown ethers. An 18-crown-6 holog. film was shown to be able to quantitate K+ concns. over the physiol. relevant range. It was virtually unaffected by variations in the Na+ background concentration within the normal physiol. variation (.apprx.0.13-0.15 M) and shows promise for developing simple, low-cost K+ sensors for medical applications.
REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:137440 CAPLUS
DOCUMENT NUMBER: 132:182082
TITLE: Brilliant or pearlescent pigments and their manufacture
INVENTOR(S): Fujita, Manabu; Teranishi, Takashi; Sato, Akihiko; Kawahata, Masami
PATENT ASSIGNEE(S): Nippon Paint Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000063711	A2	20000229	JP 1998-234046	19980820
PRIORITY APPLN. INFO.:			JP 1998-234046	19980820

AB The pigments are manufactured by grinding a hologram-printed precursor to particle size of 1-100 μm, where the precursor is obtained by printing a hologram on a volumetric hologram-recording layer obtained from curable resin binders, unsatd. monomers and photoinitiators, then curing. Thus, coating a filtered mixture of Et acrylate-glycidyl methacrylate-Me methacrylate copolymer 40, bis(4-acryloxydiethoxyphenyl)methane 55, 3,9-diethyl-3'-carboxymethyl-2,2'-thiacarbocyanine iodide 0.1 and diphenyliodonium trifluoromethanesulfonic acid salt 3 parts on a glass surface, and drying at 100° for 5 min gave a 25-μm photo-sensitive layer which was laminated with a Lumirror T film (PET) to give a hologram-recording dry plate. Affixing the dry plate on a flat mirror via an index matching liquid, irradiating with collimated Ar laser at an incident angle of 25°, drying at 80° for 30 min, irradiating with UV light, detaching the hologram-containing plate from the PET film and the mirror, and freeze-milling gave pearlescent pigments with diameter 10-30 μm.

L4 ANSWER 8 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:784356 CAPLUS
DOCUMENT NUMBER: 132:28750
TITLE: Holographic sensor production
INVENTOR(S): Blyth, Jeffrey; Lowe, Christopher Robin; Mayes, Andrew Geoffrey; Millington, Roger Bradley
PATENT ASSIGNEE(S): Cambridge University Technical Services Ltd., UK
SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9963408	A1	19991209	WO 1999-GB1612	19990521
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2333670	AA	19991209	CA 1999-2333670	19990521
AU 9940510	A1	19991220	AU 1999-40510	19990521
EP 1082643	A1	20010314	EP 1999-923748	19990521
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6689316	B1	20040210	US 2001-701476	20010209
PRIORITY APPLN. INFO.:			GB 1998-11655 A	19980529
			WO 1999-GB1612 W	19990521

AB A method for the production of a holog. sensor wherein the holog. recording material forming the sensitive element is a polymer matrix, which comprises diffusing into the matrix one or more soluble salts that undergo reaction in situ to form an insol. sensitive precipitate and recording a holog. image. This

method allows the production of a holog. sensor wherein the holog. recording material forming the sensitive element is an insol. polymer film.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:472131 CAPLUS
DOCUMENT NUMBER: 131:151786
TITLE: Gradient index-forming material, holographic dry plate using it, and manufacture of hologram using the plate
INVENTOR(S): Ishizuka, Takeshi; Miyashita, Tomoko
PATENT ASSIGNEE(S): Fujitsu Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11202740	A2	19990730	JP 1998-8771	19980120
PRIORITY APPLN. INFO.:			JP 1998-8771	19980120

AB The material contains (A) binder polymers composed of a vinyl/acrylic copolymer with the maximum of polystyrene-conversion average mol. weight (M) 1 + 105-1 + 106 and a vinyl/acrylic copolymer with M 8 + 103-4 + 104, (B) photopolymerizable monomers containing aromatic or halo-containing vinyl/acrylic monomer and/or polyfunctional vinyl/acrylic monomer, and (C) a photopolymn. initiator. The holog. dry plate comprises a substrate coated with a photosensitive film from the above material. The hologram is manufactured by (1) applying a photosensitive film on a substrate from the above material to form a holog. dry plate, (2) exposing the photosensitive film with a light, and (3) curing the photosensitive film. The material shows high diffraction efficiency, transparency, and good heat resistance.

L4 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:441704 CAPLUS
DOCUMENT NUMBER: 131:213278
TITLE: A Holographic Alcohol Sensor
AUTHOR(S): Mayes, Andrew G.; Blyth, Jeff; Kyroelaeinen-Reay, Marika; Millington, Roger B.; Lowe, Christopher R.
CORPORATE SOURCE: Institute of Biotechnology, University of Cambridge, Cambridge, CB2 1QT, UK
SOURCE: Analytical Chemistry (1999), 71(16), 3390-3396
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A simple liquid-phase alc. sensor based on a reflection hologram distributed throughout the volume of a cross-linked poly(hydroxyethyl methacrylate) film is described. The sensor is interrogated optically through the back of the film, by measuring the peak wavelength of the narrow-band reflection spectrum when the hologram is illuminated with white light. This procedure makes it possible to measure thickness changes in the film with great precision. The presence of alc. in the sample medium causes the polymer film to swell in a concentration-dependent manner, whence the alc. content can be determined by measurement of the wavelength of the reflected spectral peak. The sensor exhibits a wide dynamic range, which can easily be tuned for specific applications, and is unaffected by highly colored and turbid samples, since the light path does not pass through the sample. The

sensor is relatively insensitive to pH in the range 3-6.5 and is highly stable, both in use and in storage. The performance of the sensor was demonstrated by measuring the alc. contents of a wide range of alc. beverages such as wines and beers, with no sample pretreatment. Most alc. concns. were determined to be within approx. ±0.3 vol % of their stated values.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:433327 CAPLUS
DOCUMENT NUMBER: 127:58136
TITLE: Light-sensitive composition for holographic recording
INVENTOR(S): Kano, Yoshinori; Yasuike, Madoka
PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09106241	A2	19970422	JP 1995-261083	19951009

PRIORITY APPLN. INFO.: JP 1995-261083 19951009

AB A light-sensitive composition suited for use in volume phase holog. recording, comprises (A) a polymer compound containing a polysiloxane compound in the side chain, (2) a compound having polymerizable ethylenic unsatd. bonds, and (C) a photo-initiator. The composition is characterized in that the laser-induced reflective index variation is ≥0.005.

L4 ANSWER 12 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:314002 CAPLUS
DOCUMENT NUMBER: 127:25749
TITLE: Wavelength multiplexed holograms by persistent spectral hole burning
AUTHOR(S): Yagyu, Eiji; Yoshimura, Motomu
CORPORATE SOURCE: Advanced Technology RandD Center, Mitsubishi Electric Corporation, Amagasaki, 661, Japan
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1997), 3011(Practical Holography XI and Holographic Materials III), 333-342
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We have been investigating wavelength multiplexed holograms in persistent spectral hole burning (PHB) materials. We have examined PHB hologram characteristics in some organic PHB materials to show guides to produce more suitable PHB materials for wavelength multiplexed holograms. The examined characteristics were diffraction efficiency, sensitivity and the capability of wavelength-multiplexing and the distribution of diffraction efficiency at the temperature of 4.2 K. Typical characteristics in the examined materials at 4.2 K were as follows; (1) sensitivity of > 0.1 mJ/cm2, (2) diffraction efficiency of < 0.3 %, and (3) the holograms' intervals of > 15 GHz where adjacent holograms could be formed most closely without cross talk. Hundreds of holograms can be stored without cross talk with each other in calcn. Furthermore, we showed that wavelength multiplexed holog. storage of tens of 2- and 3-D images could be performed at the different laser frequencies at the temperature

of 4.2 K. The continuous 3-D retrieval of the images of a moving object could be performed by scanning laser frequency continuously.
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:41689 CAPLUS
DOCUMENT NUMBER: 126:67592
TITLE: Photosensitive composition and recording medium for hologram and hologram formation
INVENTOR(S): Yasuike, Madoka; Kano, Yoshinori
PATENT ASSIGNEE(S): Toyo Ink Mfg Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08272284	A2	19961018	JP 1995-75283	19950331
PRIORITY APPLN. INFO.:			JP 1995-75283	19950331

AB The title photosensitive composition comprises a F-containing polymer A, a polymerizable group-bearing compound B, a polymerization initiating system C activated by exposing to a chemical radiation ray, and a solvent D capable of dissolving B but not A which is dispersed in the solvent D. 8 Modifications of the photosensitive composition and recording medium using the photosensitive composition and hologram formation are also claimed.

L4 ANSWER 14 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:81497 CAPLUS
DOCUMENT NUMBER: 124:131617
TITLE: Hologram recording material with superior sensitivity, refractivity, transparency and resolution
INVENTOR(S): Yamaguchi, Takeo; Toba, Yasumasa; Kano, Yoshinori; Yasuike, Madoka
PATENT ASSIGNEE(S): Toyo Ink Mfg Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07261644	A2	19951013	JP 1994-55450	19940325
PRIORITY APPLN. INFO.:			JP 1994-55450	19940325

AB The title recording material comprises (A) a polyester resin containing ≥1 of a fraction bearing a (meth)acryl group and having weight average mol. weight 1,000-30,000, (B) a polymerizable ethylenic monomer of mol. weight ≤1,000, (C) a photo-sensitizing dye, (D) a photopolymn. initiator, and (E) a multi-functional crosslinker capable of reacting with polyester A.

L4 ANSWER 15 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:81496 CAPLUS
DOCUMENT NUMBER: 124:131616
TITLE: Hologram recording material with superior sensitivity, refractivity, transparency and resolution
INVENTOR(S): Yamaguchi, Takeo; Kano, Yoshinori; Toba, Yasumasa;

Yasuike, Madoka
PATENT ASSIGNEE(S): Toyo Ink Mfg Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07261643	A2	19951013	JP 1994-55449	19940325

PRIORITY APPLN. INFO.: JP 1994-55449 19940325
AB The title recording material comprises (A) a polyester resin containing ≥1 of a fraction bearing a (meth)acryl group and having weight average mol. weight 1,000-30,000, (B) a polymerizable ethylenic monomer of mol. weight ≤1,000, (C) a photo-sensitizing dye, and (D) a photopolymn. initiator.

L4 ANSWER 16 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:487935 CAPLUS
DOCUMENT NUMBER: 122:226933
TITLE: Holographic recording composition and medium and hologram formation
INVENTOR(S): Yamaguchi, Takeo; Toba, Yasumasa; Yasuike, Madoka
PATENT ASSIGNEE(S): Toyo Ink Mfg Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06295149	A2	19941021	JP 1993-52334	19930312

PRIORITY APPLN. INFO.: JP 1993-21522 A 19930209
AB The title holog. recording composition comprises (A) an active H-containing polymer, (B) a compound containing ≥1 polymerizable ethylenic unsatd. bond, (C) a photo-sensitizing dye, (D) a polymerization initiator, and (E) a crosslinker containing a functional group capable of reacting with the polymer (A). Holog. recording medium and manufacture of hologram using the above composition are also claimed. The holog. medium can easily give hologram with high-sensitivity, chemical stability, high-resolution, high-diffraction efficiency high-transparency and superior strength of the photosensitive film.

L4 ANSWER 17 OF 21 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:116941 CAPLUS
DOCUMENT NUMBER: 116:116941
TITLE: Holographic recordings on 2-hydroxyethyl methacrylate (HEMA) and applications of water immersed holograms
AUTHOR(S): Yacoubian, Araz; Savant, Gajendra; Aye, Tin M.
CORPORATE SOURCE: Appl. Technol. Div., Phys. Opt. Corp., Torrance, CA, 90505, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1991), 1559(Photopolym. Device Phys., Chem., Appl. 2), 403-9
CODEN: PSISDG; ISSN: 0277-786X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A new holog. recording medium based on poly(2-hydroxyethyl methacrylate) (HEMA) and visible light

sensitizer is investigated. The holog. recordings are based on photoinduced polymerization of HEMA, using camphorquinone as a visible light sensitizer. The medium does not require extensive processing and survives high humidity conditions, including water immersion. Several expts. are conducted to analyze the behavior of this medium, including anal. of recording parameters using a real-time holog. recording/playback setup, pre-curing, swelling, and water survivability tests.. Water-immersion survivability is a unique characteristic that can be incorporated in novel holog. and optical systems, such as water immersed holog. optical elements.

L4 ANSWER 18 OF 21 COMPENDEX COPYRIGHT 2006 EEI on STN
ACCESSION NUMBER: 2005(4):7979 COMPENDEX
TITLE: Divalent metal ion-sensitive holographic sensors.
AUTHOR: Madrigal Gonzalez, Blanca (Institute of Biotechnology University of Cambridge Tennis Court Road, CB2 1QT, Cambridge, United Kingdom); Christie, Graham; Davidson, Colin A.B.; Blyth, Jeff; Lowe, Christopher R.
SOURCE: Analytica Chimica Acta v 528 n 2 Jan 10 2005 2005.p 219-228
CODEN: ACACAM ISSN: 0003-2670
PUBLICATION YEAR: 2005
DOCUMENT TYPE: Journal
TREATMENT CODE: Experimental
LANGUAGE: English
AN 2005(4):7979 COMPENDEX
AB A holographic sensor for real-time detection of divalent metal ions (Ca2+, Mg2+, Ni2+, Co2+ and Zn 2+) has been fabricated by incorporating a chelating monomer into a hydrogel matrix. A methacrylated analogue of iminodiacetic acid (IDA) was prepared and co-polymerised with hydroxyethyl methacrylate (HEMA) and ethylene glycol dimethacrylate (EDMA) as a cross-linker to form polymer films. A silver-based reflection hologram was incorporated into the hydrogel by diffusion followed by holographic recording using a frequency-doubled Nd/YAG laser. Changes in the replay wavelength of the hologram were used to characterise the swelling behaviour of the matrix as a function of its chemical composition and concentration of analyte in the media. The effects of active monomer, cross-linker, pH and ionic strength on the swelling of the matrix and on metal detection sensitivity have been studied. Polymers containing >10 mol% of chelating monomer and 6 mol% of cross-linker showed significant responses (46.3 nm) within 30 s at an ion concentration of 0-40 nm. The selectivity of the holograms towards the different ions tested was Ni2+>Zn 2+>Co2+>Ca2+ >Mg2+. The sensor showed fully reversible responses, permitting real-time monitoring of calcium ion efflux during the germination of Bacillus megaterium spores. $CPY 2004 Elsevier B.V. All rights reserved. 54 Refs.

L4 ANSWER 19 OF 21 COMPENDEX COPYRIGHT 2006 EEI on STN
ACCESSION NUMBER: 2003(38):7088 COMPENDEX
TITLE: pH-sensitive holographic sensors.
AUTHOR: Marshall, Alexander J. (Institute of Biotechnology University of Cambridge, Cambridge, CB2 1QT, United Kingdom); Blyth, Jeff; Davidson, Colin A. B.; Lowe, Christopher R.
SOURCE: Analytical Chemistry v 75 n 17 Sep 1 2003 2003.p 4423-4431
CODEN: ANCHAM ISSN: 0003-2700
PUBLICATION YEAR: 2003
DOCUMENT TYPE: Journal

TREATMENT CODE: Theoretical; Experimental
LANGUAGE: English
AN 2003(38):7088 COMPENDEX
AB Holographic sensors for monitoring H+ (pH) have been fabricated from ionizable monomers incorporated into thin, polymeric, hydrogel films which were transformed into volume holograms using a diffusion method coupled with holographic recording, using a frequency doubled Nd:YAG laser (532 nm). Unlike other optical pH sensors, it is possible to tailor the operational replay wavelength of the holographic sensor by careful control of the exposure conditions. The holographic diffraction wavelength (color) of the holograms was used to characterize their shrinkage and swelling behavior as a function of pH in various media. The effects of hydrogel composition, ionic strength, temperature, and factors influencing reversibility and response time are evaluated. Optimized holographic pH sensors show milli-ph resolution. The pH-sensing range of the holograms can be controlled through variation of the nature of the ionizable co-monomer used in polymer film construction; a series of holographic sensors displaying visually perceptible, fully reversible color changes over different pH ranges are demonstrated. A poly(hydroxyethyl methacrylate-co-methacrylic acid) holographic sensor was shown to be able to quantify the change in H+ concentrations in real time in a sample of milk undergoing homolactic fermentation in the presence of Lactobacillus casei. 37 Refs.

L4 ANSWER 20 OF 21 COMPENDEX COPYRIGHT 2006 EEI on STN
ACCESSION NUMBER: 1992(3):3217 COMPENDEX
DOCUMENT NUMBER: 920333986
TITLE: Holographic recordings on 2-hydroxyethyl methacrylate and applications of water-immersed holograms.
AUTHOR: Yacoubian, Araz (Physical Optics Corp., Pasadena, CA, USA); Savant, Gajendra D.; Aye, Tin M.
MEETING TITLE: Photopolymer Device Physics, Chemistry, and Applications II.
MEETING ORGANIZER: SPIE - Int Soc for Opt Engineering, Bellingham, WA, USA
MEETING LOCATION: San Diego, CA, USA
MEETING DATE: 24 Jul 1991-26 Jul 1991
SOURCE: Proceedings of SPIE - The International Society for Optical Engineering v 1559.Publ by Int Soc for Optical Engineering, Bellingham, WA, USA.p 403-409
CODEN: PSISDG ISSN: 0277-786X
ISBN: 0-8194-0687-2
PUBLICATION YEAR: 1991
MEETING NUMBER: 15900
DOCUMENT TYPE: Conference Article
TREATMENT CODE: Experimental; Application
LANGUAGE: English
AN 1992(3):3217 COMPENDEX DN 920333986
AB A new holographic recording medium based on poly-2-Hydroxyethyl Methacrylate (HEMA) and visible light sensitizer is investigated. The holographic recordings are based on photo- induced polymerization of HEMA, using Camphorquinone as a visible light sensitizer.The medium has several advantages.Namely, it does not require extensive processing and survives high humidity conditions, including water immersion.Several experiments have been conducted to analyze the behavior of this medium, including analysis of recording parameters using a real-time holographic recording/playback setup, precuring, swelling, and water survivability tests.Water-immersion survivability of our material is a unique characteristic that can be incorporated in novel holographic and

optical systems, such as water immersed holographic optical elements.New possibilities and applications are discussed.13 Refs.

L4 ANSWER 21 OF 21 INSPEC (C) 2006 IET on STN
ACCESSION NUMBER: 1992:4189847 INSPEC
DOCUMENT NUMBER: A1992-16-4240-017; B1992-08-4350-049
TITLE: Holographic recordings on 2-hydroxymethyl methacrylate (HEMA) and applications of water immersed holograms
AUTHOR: Yacoubian, A.; Savant, G.; Aye, T.M. (Appl. Technol. Div., Phys. Opt. Corp., Torrance, CA, USA)
SOURCE: Proceedings of the SPIE - The International Society for Optical Engineering (1991), vol.1559, p. 403-9, 13 refs.
CODEN: PSISDG, ISSN: 0277-786X
Price: 0 8194 0687 2/91/$4.00
Conference: Photopolymer Device Physics, Chemistry and Applications II, San Diego, CA, USA, 24-26 July 1991
Sponsor(s): SPIE
DOCUMENT TYPE: Conference; Conference Article; Journal
TREATMENT CODE: Experimental
COUNTRY: United States
LANGUAGE: English
AN 1992:4189847 INSPEC DN A1992-16-4240-017; B1992-08-4350-049
AB A new holographic recording medium based on poly-2-hydroxyethyl methacrylate (HEMA) and visible light sensitiser is investigated. The holographic recordings are based on photo-induced polymerisation of HEMA, using camphorquinone as a visible light sensitizer. The medium has several advantages. Namely, it does not require extensive processing and survives high humidity conditions, including water immersion. Several experiments have been conducted to analyze the behavior of this medium, including analysis of recording parameters using a real-time holographic recording/playback setup, pre-curing, swelling, and water survivability tests. Water-immersion survivability of the material is a unique characteristic that can be incorporated in novel holographic and optical systems, such as water immersed holographic optical elements. New possibilities and applications are discussed

	Type	L #	Hits	Search Text	DBs
1	BRS	L1	30212	(hologram or holographic)	US-PGPUB; USPAT
2	BRS	L2	5770	(hologram or holographic) same (sensor or detector or monitor)	US-PGPUB; USPAT
3	BRS	L3	21	2 and hydroxyethyl near8 methacrylate	US-PGPUB; USPAT
4	BRS	L4	1335	(hologram or holographic) same (pores or porous or porosity or membrane or diffusion)	US-PGPUB; USPAT
5	BRS	L5	28	4 and hydroxyethyl near8 methacrylate	US-PGPUB; USPAT